Opportunities for Potato Late Blight DSS’s in Argentina

Sites

- Mendoza San Carlos
- Tandil
- Balcarce
Potatoes in Argentina

- **Argentina:**
  - 4300 km sub-tropics – sub antarctic
  - 77,000 ha potato (NL: 157,000 ha)
  - Total production: 1.8 mln tons → 23 t/ha (NL 51 t/ha)
  - 1/3 production is processed, 70% exported
  - Per capita consumption per year:
    - Arg: 40 kg potatoes (10% processed)
    - NL: 87 kg potatoes (50% processed)
  - Production on a medium to low technical level with much labour involved, especially for the fresh market (<25% fully mechanized)
  - Bulk storage almost non existent, ware potatoes stored on fields
Potatoes in Argentina

Production areas:

- Buenos aires (Processing/Fresh) (26000 ha; November - March/May)
- Cordoba (Fresh/Processing) (36000 ha; August – November)
- Mendoza (Fresh…) (7500 ha; November - March)
- Tucumán (Fresh) (6000 ha June – October)
Potatoes in Argentina

Varieties:
- Fresh market: Spunta

Processing:
- Russet Burbank
- Ranger Russet
- Innovator
- Shepody
- Santana
- Asterix
- ..

Processing Industry:
- McCain (French Fries, 1995)
- Fram Frites (French Fries (1996)
- PepsiCo (Frit-o-Lay Crisps, 1996)
- Los 5 Hispanics (Crips)
Fram Frites Mendoza (San Carlos)

- **Potato Farm: San Fili**
  - Founded 2007
  - 350 ha potato (→ 2000 ha)
  - 7 irrigated pivots of 50 ha
  - Processing potatoes
  - Attainable yield: ≥ 80 t/ha of high quality Potatoes
  - 500 - 1000m elevation
Potatoes grown in irrigated pivots
San Fili Farm
San Fili farm
Irrigation at San Fili

- Approximately 10 mm/day
- Fertilizer is applied with irrigation water
Crop protection at San Fili

- **Main problems:**
  - Thrips
  - Virus
  - Seed potato quality
    - Mixtures ....
    - Produced as ware potatoes
    - Cut before planting
  - Soil moisture content

- **Weekly sprays according to “MasterPlan” against:**
  - Thrips
  - P. infestans
  - A. solani
New developments

- Introduction of Dacom weather stations and PlantPlus to:
  - Control & optimize irrigation
  - Schedule fungicide sprays
  - Supervision & support by Dacom and PRI/PPO
    - Control strategy
    - Interpretation of weatherdata
    - Spray advice & choice of fungicides
    - Spray technology
  - Save around 7000 euro per unnecessary spray application …
Plant Plus output for San Fili Farm; Weekly sprays
Plant Plus output for San Fili Farm; Optimum
Farm Frites Tandil

- Potato production on hired land
- 250 – 500 ha/farmer
Crop protection at Tandil

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- Virus
- Seed potato quality
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Weekly sprays according to MasterPlan against:
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INTA & McCain Balcarce

- **INTA:** El Instituto Nacional de Tecnología Agropecuaria
  - 47 experimental stations
  - 260 extension units
  - 15 research institutes
- **Balcarce**
Activities with INTA & McCain Balcarce

- Development of Decision support system based on SIMCAST blight units
- Start up of a monitoring system for P. infestans 2010/2011
  - Isolates collected by McCain and Farm Frites
  - PRI supports/carries out characterization SSR (12Plex) & virulence (DuRPh)
  - Visit to PPO/PRI & SCRI July 2010
Analysis of weather data Balcarce 2010
Conclusions

- Ample opportunities for introduction of PLB dss
  - To improve the quality of control
  - To reduce the cost of production
  - To reduce the impact of potato production on the environment
Thank you for your attention